

## REMARKS

### Summary

Claims 1, 5, 21, 23-26 and 28-46 are pending in the application and all of the claims were rejected in the present Office Action. The Applicant has carefully considered the references and arguments presented by the Examiner, and respectfully traverses the rejections on the basis that a *prima facie* case of obviousness has not been made out.

The Applicant respectfully requests that this Office action be withdrawn and that a new Office action be issued which specifically addresses each of the claims in the application. The record does not show whether a *prima facie* case of obviousness has been made out in the case of each and every claim of the present application. In the Office action, the Examiner asserts that it is not necessary to specifically mention each of the claims in making a rejection. However, without such explicit mention, the written record is unclear. If the Examiner believes that the prior art as cited makes out a *prima facie* case of obviousness, then each of the claims ought to be specifically addressed.

### Traversal of Examiner's Remarks

The Applicant respectfully traverses the Examiner's characterization of the word "terminal". While the Examiner may be entitled to make the broadest possible interpretation of a word consistent with the specification or a dictionary definition, such an interpretation must be consistent with the a definition in the specification of the application being examined or must be consistent with the conventional use in the English language, if the term is not otherwise defined in the specification. The Examiner has taken the position that "terminal" is not explicitly defined in the specification.

The Examiner asserts that "a line between elements is contacted by the elements and thus this line is a terminal." (Office action, page 10) Merriam-Webster's Collegiate Dictionary, 10<sup>th</sup> Edition (extract attached) gives a suitable definition of a terminal in an electrical context as "a device attached to the end of a wire or cable to an electrical apparatus for convenience in making connections." When the specification is read in conjunction with the drawings, it is manifest that

terminals are related to external connections to the device being described. By way of example, "the collector of an oscillating transistor 33 is connected to the power terminal 31 ...." (specification, page 1, lines 21-22; Fig. 6). As such, the Examiner's assertions regarding the interpretation of the term "terminal" is unsupportable. As the Examiner has considered that the interpretation of the word "terminal" is material to the making out of a *prima facie* case of obviousness, the Applicant respectfully submits that a *prima facie* case of obviousness has not been made out.

In response to the Applicant's arguments that Hsieh teaches a fixed divide-by-two circuit in Fig. 1(a) and in the written description (Hsieh, page 1, col. 1, line 60, bridging col. 2, line 11), the Examiner states the passage has been reviewed and "that the use of a divide-by-two circuit is merely one example of what can be used in Hsieh. Other duty cycles can be used and accordingly Hsieh is not limited to only use of a divide-by-two." (Office action, page 10). The Applicant respectfully traverses the Examiner's assertions.

The background section of a patent application is not considered to be a part of the disclosed invention. It may disclose information that is relevant to the subject of the invention and may disclose information that the applicant Hsieh considered to be prior art. As such it is relevant for what it teaches, and no more than that. It is not an embodiment of the invention disclosed by Hsieh, and cannot be combined with an embodiment of Hsieh, except through a showing that such a combination would have been obvious to a person of ordinary skill in the art at the time the invention that is the subject of the present application was made. The Examiner has not made such an argument, and thus the combination of the teaching (enabled or not) of the background section with that of the remainder of the specification of Hsieh is not supported.

In the background section cited, Hsieh specifically distinguishes between a divide-by-two circuit [16] which is in the output path and which is not in a frequency control loop and a Divide-by-N counter [17] which is used in a frequency control loop. The invention disclosed by Hsieh, see for example Fig. 4, discloses a divide-by-N counter [18] in the frequency control loop, and not in the output path. Nothing in the prior art cited by Hsieh teaches that the divide-by-two device can have anything other than a divide-by-two function.

Hsieh makes it clear in the background that the use of any frequency divider in the signal chain is disadvantageous in that the "frequency of the digital signal  $F_{vco}$

has to double in advance to obtain the pulse signal.” (col. 2, lines 3-5). The objective of the invention disclosed by Hsieh is to “convert[] a pair of differential analog signals from an oscillator into an output pulse signal with a 50% of duty factor. The pulse signal has the same frequency as that of each of the differential analog signals.” (Hsieh, Abstract) [emphasis added]. As such, the digital output frequency in Hsieh must be the same as that of the input analog frequency.

Hsieh, in the disclosure of the invention and in the Abstract, teaches that the digital output frequency is the same as the VCO output frequency. The Examiner is unjustified in drawing any different conclusion.

Moreover, the word “controlling” as used in Claim 26 of the present application, implies that there is some means of selecting the dividing ratio. Nothing in the references teaches or suggests that any of the circuits identified by the Examiner in Hsieh can be controlled to operate at other than divide-by-two. If the circuits were modified to do so, the device taught by Hsieh as the invention (that is in the specification excluding the background section) would be inoperative for its intended purpose which, for purposes of this traverse, is asserted to be the portion of the Abstract cited above. Moreover, in accordance with the teaching of the background section, a division by more than a factor of two would be even more disadvantageous according to Hsieh.

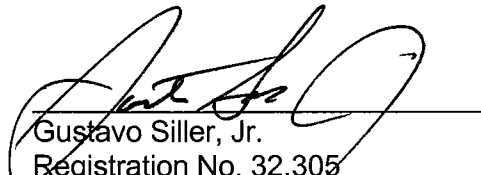
See Baxter Int'l, Inc. v. McGaw, Inc., 149 F.3d 1321, 1328 (Fed. Cir. 1998) (quoting In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994)) (noting that “a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought”). For this reason, even if the Examiner attempts to combine the teaching of the background section of the Hsieh and the remainder of that disclosure, there cannot be a reason to combine the teachings, as Hsieh clearly teaches away from an output frequency that is less than the input frequency.

The Applicant re-asserts each of the traverses made in the paper filed on April 12, 2006, and incorporates them herein by reference.

## Conclusion

In view of the arguments above, Applicant respectfully submits that the pending claims are in condition for allowance and seek an early allowance thereof. If for any reason the Examiner is unable to allow the application in the next Office Action and believes that a telephone interview would be helpful to resolve any remaining issues, he is respectfully requested to contact the undersigned.

Respectfully submitted,



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